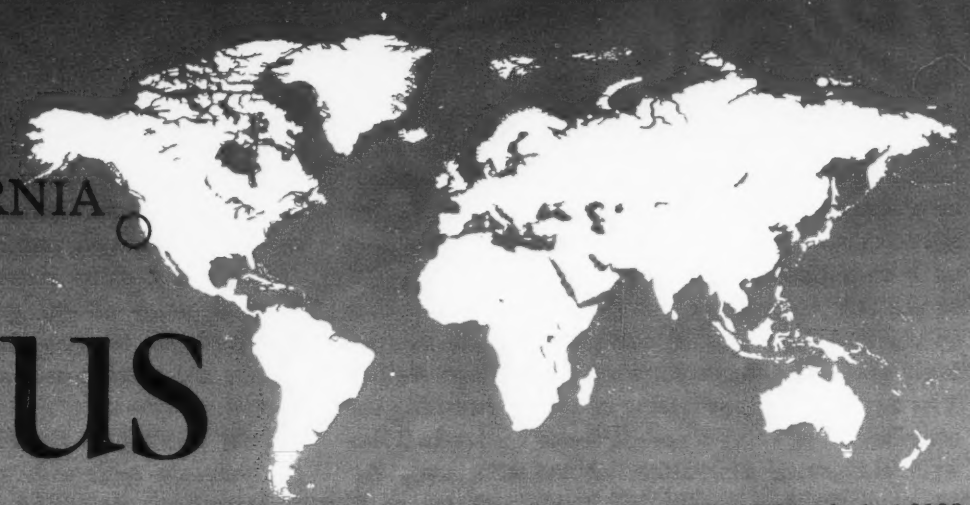
CALIFORNIA
focus



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California

California interests the nation and has done so since the discovery of gold in 1848 triggered the boom that built the cities of San Francisco, Sacramento, and Stockton, precipitated statehood (1850), and hastened construction of the first trans-continental railroad. California's weather, its variegated landscape, its motion pictures and television, its cotton and electronics, its urbane San Francisco and vibrant Los Angeles, even its earthquakes, floods, and forest fires—all prompt frequent headlines across the continent.

THE LANDSCAPE AND THE WEATHER. Californians may tend to overwork the word "unusual" in describing their state, but the fact is that probably no other approaches the physical complexity of its 158,693 square miles. It had, before Alaska became a state, the highest mountain (Whitney, 14,495 feet) in the country, and it still has the lowest point (near Badwater in Death Valley, -282 feet). Only about one-fourth is moderately flat. The landscape includes the fault-fold Coast Ranges, with some narrow coastal plains, the alluvial trough of the Great Central Valley, the complex Transverse Ranges, the glaciated Sierra Nevada, youthful fault blocks in the western Great Basin, broad bolsons in the Mojave Desert, volcanic cones in the southern Cascades, and lava tablelands in the Modoc Plateau.

Obviously, in such a diversified terrain and one that stretches over a thousand miles from northwest to southeast, the climate varies enormously from place to place. On the southern lowlands, where favored slopes are covered with sensitive lemons and avocados, snow is a rarity; the High Sierra, on the other hand, is blanketed in snow for many months. In summer the southeastern desert country stifles in the heat, while the foggy northwest coast remains near-chilly. The spring months are generally pleasant almost everywhere.

Most of California tends towards summer drought, but precipitation ranges from less than 3 inches a year to more than 100, and large parts lack the dry-summer subtropical climate characteristic of the famous playgrounds.

Water supply is a major problem. Northern California, mostly slope, with limited arable land, has a surplus; central California is less fortunate; southern California suffers from acute shortages. As long ago as 1905 Los Angeles had outgrown its local water supplies, and built an aqueduct to carry water from the eastern slopes of the Sierra to the city and the thirsty valleys in the south. In the 1930's, the Colorado River was tapped. An aqueduct was constructed

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to lift water 1,600 feet over mountains by a series of pumping stations and carry it 242 miles across desert to a reservoir, from whence it is distributed to five southern counties; another aqueduct carries portions of it from Los Angeles to San Diego. Construction of the All American Canal improved the situation in the Colorado Desert, but prospects are increasingly grave in other areas such as Antelope Valley. The Supreme Court decision of 1963 concerning the distribution of water from the lower Colorado River will necessitate utilization of other sources for southern California. Another huge undertaking is the Central Valley project, designed to supply water for irrigation, municipal, domestic, and other uses; improve navigation on the Sacramento River; provide adequate stream flows to maintain suitable water quality in the Delta area; control floods; and provide hydroelectric power. It includes Shasta Dam on the Sacramento River, Friant Dam on the San Joaquin River, and Folsom Dam on the American River, and most recently the Trinity River Project which carries Trinity River water across the drainage divide into the Sacramento River, developing hydroelectric energy along the route and permitting additional expansion of irrigated acreage in the San Joaquin Valley.

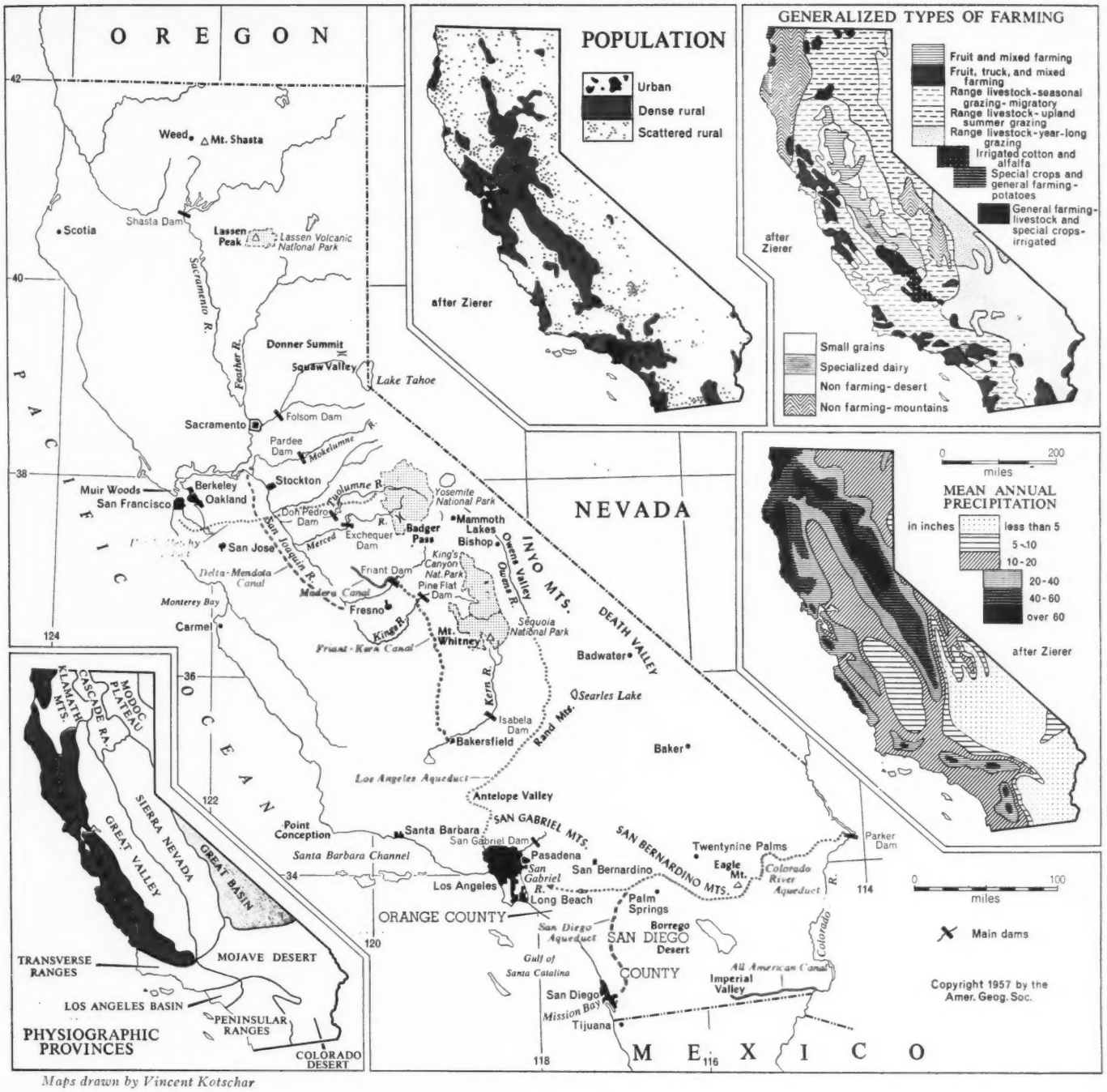
In the 1960 elections voters approved the $1.75 billion California Water Plan, the first unit of which, the Oroville Dam and reservoir on the Feather River, should be completed by 1967. Water will be released from this reservoir to generate hydroelectricity, and will flow down into the Sacramento, and from there will travel south into the Sacramento-San Joaquin Delta region. From the Delta, the water will be carried south by pipelines, aqueducts, tunnels, and pumps for distribution to deficient areas in the state, all the way to San Diego. The Delta part of the California Water Plan, known as the Biemond Plan (named for the Dutch engineer whose concepts and ideas led to its formulation), is comparable in magnitude to the work being done in the Netherlands to protect cropland against salt water by closing off the coast and turning sea water inlets into fresh water lakes.

Forest associations are as varied as the topography and climate: redwood and Douglas fir in the northwest; pine in the Cascades and Sierra Nevada and on higher Transverse Ranges; mixed woodlands in the Coast Ranges and Sierran foothills; pinyon-juniper woodlands on Basin ranges; chaparral scattered throughout the length of the state from the Sierran foothills westward; and desert shrublands along the eastern boundary, including sagebrush, creosote-burroweed, and Sonoran types.

Soils are equally diversified. Except for lateritic ones, virtually all the great soil groups are represented. Little wonder that small-scale world maps dismiss California's soils as "complex."

THE SEVERAL CALIFORNIAS. The northeastern volcanic tablelands are dotted with sagebrush and cattle ranches and inhabitants are few. To the south, Death Valley, a part of the Great Basin that edges into California, is even more sparsely populated. The Mojave Desert is also fairly empty, although it is being increasingly used for recreational and military purposes and its position athwart the principal approaches into Southern California promises greater activity in the future. As for the Colorado Desert, portions of it have been transformed into an "American Nile"; but prospects for additional irrigation now appear to depend upon cheap sea water conversion rather than the Colorado River. Southern California, walled inland by mountains and extending from Tijuana to Point Conception is the state's most densely populated and most industrialized area and one of the greatest playgrounds in the world. The Central Coast, consisting of the southern Coast Ranges and attenuated intermontane lowlands, includes metropolitan San Francisco and excellent grazing and crop country. Inland lies the Central Valley, one of the most fertile spots on earth. Eastward, the Sierra Nevada, another much-frequented playground, provides timber, irrigation water, and hydroelectric power. In the north, the southern Cascade, including Lassen Peak and Mt. Shasta, constitutes still another vacation land, and supplies water, lumber, and pastoral products. The Northwest, consisting of the Klamath and northern Coast Ranges, is best known for its lumbering, the summer recreation land called the "Redwood Country," and orchards and vineyards in the southern valleys.

A RICH STATE. Thanks to its mines, forests, seas, fields, and factories, California has a more multifarious economy than any other state in the Union. Today, minerals are a billion-dollar industry, and all 58 counties have some of them. The quantity of the commonest metals and also coal



Maps drawn by Vincent Kotschar

is small, but petroleum fuels, mostly from the Los Angeles Lowlands, the Central Coast, and the southern San Joaquin Valley, contribute about three-fourths by value of all minerals. Of the industrial commodities, cement, sand, and gravel are abundant, especially near the metropolitan centers. Potash comes from Searles Lake, iron ore from Eagle Mountain, and borax from Boron. The Central Coast provides, besides petroleum, mercury, salt, and cement. The Great Basin, once famed for its silver camps, supplies lead and talc. In the Sierra, dredging of gold from stream gravels has almost ceased; in some recent years tungsten from Bishop has been more valuable.

The volume of forest products has doubled since 1940 and California now ranks second to Oregon in lumber output. Larger local markets, mechanized equipment, and the construction of access roads

have favored expansion. The forests are mainly in the Sierra Nevada, the southern Cascade, and the Northwest. The interior mountains supply pine, spruce and fir; and the Northwest supplies redwood.

Quantities of fish are caught in the cool waters of the California Current; in fact, California leads the nation in commercial fishing and fish canning. Varieties include several types of tuna, anchovy, mackerel, rockfish, sole, and sardine, and also crab and abalone. Larger vessels, chiefly from San Diego and Los Angeles, range far from shore and southward as far as Peru, whereas San Francisco serves as a fresh-fish market mainly for fish caught off the Golden Gate.

THE GOOD LAND. California stands first nationally both in variety and in value of agricultural products. It raises more than 200 different crops commercially, including a sizable percentage of the nation's fruits and nuts, on a fourth of the national irrigated acreage. It ranks fourth in cotton production, and the fast-rising yield per acre is well above the national average.

Terrain, climate, soils, irrigation, experimentation, and cooperatives have all contributed to diversification and expansion. In the now-irrigated Colorado Desert year-round planting is the rule, livestock imported from the entire West, Mexico, and Canada are fattened, and the farmers can regularly expect bumper crops of cotton, alfalfa, flax, sugar beets, dates, grapefruit, grapes, winter lettuce, melons, and spring vegetables. Southern California is especially noted for its citrus and other fruits, nuts, vegetables, market flowers, avocados, and nursery stock. The coastal fog belt favors lima beans, brussels sprouts, artichokes, and dairying. The Central Coast ranks high as a producer of fruits (especially the counties around San Francisco Bay), nuts, field beans, lettuce and other vegetables, seed flowers, sugar beets, dairy products, and poultry, and there is extensive winter grazing on the hillsides. The prodigality of the Central Valley includes cotton, grains, dairy products, sugar beets, rice, fruits, vegetables, and a sizable share of the state's potato crop. The fertile Delta lands have some of the world's highest yields of field corn. The valleys just north of San Francisco are poultry, dairying, and fruit growing country, though much of this forested Northwest remains untilled.

INDUSTRIAL BOOM. California's industrial growth since 1945 has been without equal in the country. An enormous number of older plants have been expanded, and an equally enormous number of new ones have been built. The boom has touched all major types of industry except textiles. Transportation equipment, steel, chemicals, electronics, food products, household furnishings, clothing, and construction, to name only a few, have all grown.

In the late nineteenth century manufacturing responded slowly to rising needs in a state far from the industrial Northeast. Then, during World War I, shipbuilding on the West Coast promoted the expansion of little shops that had been fabricating steel from scrap. By the 1920's, the drying and canning of fruits and vegetables was well established, and so were automobile assembly plants and rubber factories. Meanwhile, the motion-picture industry was achieving national dominance and acquiring an international market. This fostered the making of clothing, furniture, and jewelry in Los Angeles. In the late 1930's and, especially, during World War II, aircraft assembly became a major industry in Southern California. The demands of global war helped diversify production still further, and since 1945 the trend has continued.

Metropolitan Los Angeles long ago surpassed the San Francisco Bay area, which continues, however, to rank among the nation's top ten industrial cen-

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ters. Between 1949 and 1959 industrial employment in the Los Angeles-Long Beach Metropolitan area doubled to reach 770,000, and the number of industrial workers in San Diego trebled. The San Francisco Bay area, where industry has spread down the peninsula to the Santa Clara Valley and also in East Bay, contains much of the rest of California's manufacturing, though some Central Valley cities are becoming increasingly interested in it, especially Sacramento.

MORE ENERGY NEEDED. Industrial growth and a population which has increased from 6.9 million in 1940 to over 17 million have naturally expanded markets for electric and other sorts of power. Central California benefited from the construction of the Shasta Dam and other units of the Central Valley Project. The so-called "Big Creek" plants on the San Joaquin are giving Southern California steadily increasing amounts of hydroelectricity. Yet the city of Los Angeles has outgrown its supply of "cheap" power and has had to build steam plants utilizing more expensive natural gas, which comes from Texas and elsewhere in the Southwest. The recently-completed 1,400-mile Alberta-California pipeline delivers natural gas to the San Francisco Bay area. As petroleum production has been decreasing slowly since 1954, more foreign crude oil must now be shipped to the refineries of Los Angeles and San Francisco. Atomic reactors will doubtless become an increasingly important source of energy; the state's third nuclear station, a 60,000-kilowatt plant on Humboldt Bay, has now been completed and additional facilities are contemplated.

GETTING ABOUT. Transportation facilities have been repeatedly improved in an effort to keep pace with population and industrial growth. A state-wide system of multilane highways, called freeways, is being expanded with gasoline tax funds, and U.S. 99 is nearing freeway status over the entire length of California. Nevertheless, in metropolitan areas, especially around Los Angeles with its more than 3 million vehicles, frustrating rush-hour traffic congestions occur on the over-used freeways. San Francisco is considering building two additional bridges across the bay to ease up bottlenecks. In both this city and Los Angeles, there are prospects for rapid transit systems. In many metropolitan areas, urban growth has absorbed small private airfields despite a rising volume of traffic. New airport facilities have been constructed in both Oakland and San Fran-

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